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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/773,537	02/02/2001	Tohru Hirayama	2001_0105A	6305

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EXAMINER

HUNG, YUBIN

ART UNIT PAPER NUMBER

2625

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/773,537

Applicant(s)

HIRAYAMA ET AL.

Examiner

Yubin Hung

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 6, 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-8, 10-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment/Arguments

1. This action is in response to amendment received on April 23, 2004.
2. In view of applicant's amendment, the objections to the priority and specification have been withdrawn.
3. In view of the applicant's cancellation of claims 6 and 9, the 35 USC § 112 rejections have been rendered moot.
4. Applicant's arguments filed on April 23, 2004 have been fully considered but they are not persuasive. Therefore, 35 USC 103 rejections of claims 1-5, 7-8, 10-12 are respectfully maintained and incorporated by reference as set forth in the prior office action (paper #3).
5. In remarks Applicant argued in substance

(Regarding claim 1, and similarly claims 4 and 7:)

- a) **that there is no reason to provide a color matching apparatus that utilized the color matching instruments of both Corrigan and Alman because doing so would result in a complex and expensive structure that serves no**

apparent purpose (P. 19, line 8 – P. 21, line 2, especially P. 20, line 27 – P. 21, line 2).

In response to applicant's argument that there is no motivation to combine the references (because Applicant asserts, as recited above, that doing so will result in a complex and expensive structure), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

However, in the rejection of claim 1 Alman was relied upon to teach using a device such as a multi-angle colorimeter for characterizing a surface containing metallic paints by measuring micro-brilliance-feeling data. As Applicant's argument points out, the colorimeter used in Corrigan can also be used for such a purpose (P. 19, lines 21-26; P. 20, lines 22-26). Therefore there is no need for a separate colorimeter and the complex and expensive structure Applicant suggests will not materialize.

Further, apparatus claim 1 does not distinguish from the prior art of record. As set forth in MPEP 2114, an apparatus claim must be distinguished from the prior art in terms of structure rather than function. See *In re Schreiber* F.3d 1473,

1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) and *In re Swinehart*, 439 F.2d 210, 212-13, 169 USPQ 226, 228-29 (CCPA 1971).

- b) **that the standard color measuring device of Alman cannot be *characterized* as a micro-brilliance-feeling measuring device and that the X, Y and Z values as disclosed by Alman cannot be characterized as a micro-brilliance-feeling data (P. 21, lines 17-19).**

However, if a device can be used to measure the characteristics of metallic paints (a kind of micro-brilliance-feeling paint) as Applicant points out in P. 19, lines 21-26, then clearly it is a micro-brilliance-feeling measuring device. Further, Col. 1, lines 32-68 of Alman clearly indicates that the measurements in his invention characterize metallic (or brilliant) paints, although the measurements (a kind of "micro-brilliance-feeling" *data*) are not the same as the micro-brilliance-feeling *index* specified in P. 15, lines 20-23 of the specification of the application filed 02/02/2001.

- c) **that admitted prior art fails to teach or suggest that color characteristic data of full-color paints are entered into a computer (P. 21, lines 8-11).**

However, while not expressly pointed out in the previous office action, Corrigan does disclose that color characteristic data of full-color paints are entered into a computer. [Corrigan: Col. 8, lines 45-67. Note that the physical data are color characteristic data of full-color paint (Col. 8, lines 45-49) received by the computer (Fig. 14, numerals 12, 14 and the diamond block) and therefore are entered into the computer (Col. 8, lines 53-59).]

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Rejections from Prior Office Action (Paper #3)

7. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corrigan et al. (US 6,522,977) in view of Alman (US 4,479,718) and Admitted Prior Art (Specification: P. 1, lines 9-25).

8. Regarding Claim 1 (as interpreted), Corrigan et al. discloses:

- a colorimeter
[Fig. 1, numeral 10; Col. 6, lines 24-28, 46-48]
- a computer in which a plurality of paint blends, the color data corresponding to each of the paint blends of a plurality of full-color paints are entered and a color-matching calculation logic using the paint blends and the data operates [Col. 7, line 24 – Col. 8, line 8 (Computer); Col. 8, lines 23-33 (paint blends); Col. 8, lines 45-48 (color data); Fig. 1, the diamond-shaped block and the Pain Data Matching Process section starting at Col. 8, line 60 (color-matching calculation logic).]

While Corrigan et al. also considers metallic paint (a kind of brilliant paint) in Col. 8, lines 29-33, it does not expressly teach the inclusion of a micro-brilliance-feeling

measuring device and the entering of color characteristic data and micro-brilliance-feeling data into the computer.

However, Alman teaches the use of a device for characterizing a surface containing metallic paint [Abstract; Fig. 2; Col. 2, lines 21-33] by measuring micro-brilliance-feeling data [Fig. 1; Table on Col. 4, lines 12-23]. In addition, Admitted Prior Art teaches the calculation and use of color characteristic data. [Specifically, the K-values and the S-values recited in Col. 1, lines 15-16].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Corrigan et al. with the teachings of Alman and the Admitted Prior Art by using a micro-brilliance-feeling measuring device to measure micro-brilliance-feeling data, calculating characteristic data, entering the data to the computer and use them for color matching because the system of Corrigan et al. does process metallic paints and, as Alman points out, the special property of such paints requires a different approach/device for proper characterization (Col.1, lines 25-64).

9. Regarding claim 2, Corrigan et al. further discloses:

- color numbers corresponding to a plurality of paint blends entered in the computer (C) are entered in the computer
[Col. 8, lines 34-52. Note that VIN serves as the color number.]

10. Regarding claim 3, Corrigan et al. further teaches:

- wherein a colorimeter (A) is a multi-angle colorimeter

[Col. 6, lines 27-28.]

Note that while Corrigan et al. has not expressly disclosed the use of a multi-angle colorimeter, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use one since it was available (e.g., the device of US 5,387,977 to Berg et al.) and would be much easier to use and produce more consistent results.

11. Claim 10 is similarly analyzed and rejected as claim 3.

12. Regarding claim 4, Corrigan et al. further discloses

- a step of measuring a paint film of a reference color to which the color of a paint should be adjusted through color-matching by a colorimeter to obtain color data of the reference color
[Fig. 1, numeral 10; Col. 6, lines 25-27]
- a step of comparing the color data of the reference color with color data corresponding to paint blends previously entered in a computer, indexing the degree of matching of the color of the entered paint blends, and selecting a prospective paint blend
[Claim 1, lines 12-18. Note that indexing is inherent in any comparison/selection step.]

While Corrigan et al. does not expressly teach an additional step of measuring the paint film of a reference color by a micro-brilliance-feeling measuring device to obtain micro-brilliance-feeling data of the reference color for use in the comparison step, Alman teaches measuring color data of a surface containing metallic paint [Fig. 1; Table on Col. 4, lines 12-23] by a (micro-brilliance-feeling) measuring device [Abstract; Fig. 2; Col. 2, lines 21-33].

Since Corrigan et al. considers metallic paint (a kind of brilliant paint) in Col. 8, lines 29-33, it therefore would have been obvious to one of ordinary skill at the time the invention was made to modify Corrigan by also measuring a paint film of reference color and use the result in the comparison step in order to improve the matching result of the metallic colors because measurements using only regular colorimeter cannot capture the special characteristics of metallic paints and will result in inferior color reproduction.

13. Regarding claim 5, Corrigan et al. further discloses

- executing (4) a step of correcting a selected paint blend by a color-matching-calculation logic after the step (3) to obtain a corrected blend closer to a reference color
[Claim 3]

14. Regarding claim 6 (as assumed), Corrigan et al. further discloses

- wherein the prospective paint blend obtained in step (3) or the corrected blend obtained in step (4) is transferred to an electronic balance
[Fig. 1, numerals 16, 20,22; Col. 5, lines 37-45; Col. 6, lines 15-16. Note that it is well known in the art that an electronic balance is used for monitoring the amount of paint used.]

15. Claim 11 is similarly analyzed and rejected as per claim 6.

(Note: The cancellation of claim 6 necessitates a new rejection of claim 11.

See below.)

16. Regarding claim 7, Corrigan et al. in Col. 8, line 61 – Col. 9, line 5 further discloses the additional limitation in Step (7) of claim 7, which corresponds to step (3) of

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claim 4, of "selecting color data and micro-brilliance-feeling data of at least one paint blend having the same color number as the preset color number of the reference color" for comparison. This is because Col. 8, line 61 – Col. 9 line 5 clearly indicates that each VIN, i.e., the color number, corresponds to a set of vehicles, which in turn is equivalent to a set of paint blend (since each vehicle has one).

17. Claims 8, 9 and 12 are similarly analyzed and rejected as per claims 5, 6, 11, respectively.

New Rejections

18. Regarding claim 11, Corrigan et al. further discloses

- wherein the prospective paint blend obtained in step (3) or the corrected blend obtained in step (4) is transferred to an electronic balance [Fig. 1, numerals 16, 20,22; Col. 5, lines 37-45; Col. 6, lines 15-16. Note that it is well known in the art that an electronic balance is used for monitoring the amount of paint used.]

19. Claims 13-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corrigan et al. (US 6,522,977), Alman (US 4,479,718) and Admitted Prior Art (Specification: P. 1, lines 9-25, hereinafter referred to as APA), as applied to claims 1-12 above, and further in view of Kazuya et al. (JP10-170436, with machine-translated English version).

20. Regarding claim 13, and similarly claim 14, Corrigan, Alman and ATA teach/suggest all limitations of its parent, claim 1.

Corrigan, Alman and ATA do not expressly disclose that the micro-brilliance-feeling measuring device comprises

- a light irradiation device operable to irradiate light to a paint film surface
- a camera operable to photograph the light-irradiated paint film surface
- an image analyzer operable to analyze an image photographed by the camera

However, Kazuya teaches/suggests using a spectrophotometer with a lamp, a CCD camera and an analyzer. Further, two-dimensional images are captured. [Abstract of the English version ; Fig. 2, numerals 10 (lamp), 12 (camera), 14 (analyzer); Fig. 5 (2-D image)]

Corrigan, Alman, ATA and Kazuya are combinable because they are from the same field of endeavor of color measurement.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Corrigan, Alman and ATA with the teachings of Kazuya by using a spectrophotometer with a lamp, a CCD camera and an image signal processor and a personal computer to acquire micro-brilliance-feeling measurements of metallic paints. The motivation would have been because such a colorimeter is useful in measuring a

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color distribution of a two-dimensional area, as pointed out by Kazuya in Col. 1, lines 44-46.

Therefore, it would have been obvious to combine Kazuya with Corrigan, Alman, and ATA to obtain the invention of claim 13.

21. Regarding claim 17, it is similarly analyzed and rejected as per claim 4 using the measuring device taught by Kazuya. [See the analysis of claim 13.]

22. Regarding claim 20, it is similarly analyzed and rejected as per claim 7 using the measuring device taught by Kazuya. [See the analysis of claim 13.]

23. Regarding claim 15, and similarly claims 18 and 21, Kazuya further discloses

- the image photographed by the camera is a two-dimensional image, which is divided into a plurality of partitions
[Abstract, lines 10-14; Fig. 5]

24. Regarding claim 16, and similarly claims 19 and 22, Kazuya further discloses

- the micro-brilliance-feeling measuring device measures a brightness of each of the plurality of partitions, and wherein the brightness is a digital gradation showing a shading value of the two-dimensional image photographed by the camera for each partition
[Abstract, lines 9-14. Note that it is well known in the art that luminance (i.e., brightness) is represented as a digital gradation, e.g., an integer between 0 and 255]

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Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are listed below:

- Iida et al. (US 5,706,083) – Discloses a spectrophotometer and its application to a colorimeter with embodiments that use a lamp, a CCD camera, an image processor, a computer and capture 2-dimensional images

26. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yubin Hung whose telephone number is (703) 305-1896. The examiner can normally be reached on 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Yubin Hung
Patent Examiner
July 7, 2004


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